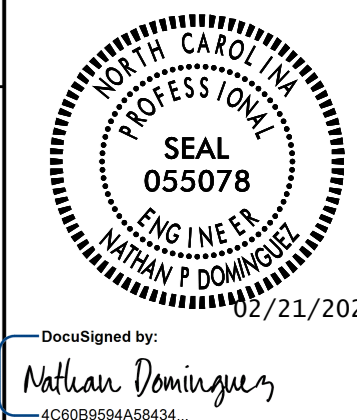


# PLANS AND DETAILS FOR PROPOSED LIGHTING /ELECTRICAL CONSTRUCTION

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**



### NOTES

- 1 AT THESE LOCATIONS, PROVIDE ELECTRICAL DUCT IN ACCORDANCE WITH NEC REQUIREMENTS FOR AN APPROVED RACEWAY FOR ELECTRICAL CIRCUITS. SEE TABLE "B".
- 2 INSTALL ALL BORE PITS OUTSIDE THE CLEAR ZONE, AS DEFINED BY THE 2011 AASHTO ROADSIDE DESIGN GUIDE OR AS DIRECTED BY THE ENGINEER.
- 3 LOCATE ALL JUNCTION BOXES OUTSIDE CLEAR ZONE AND IN AN AREA UNLIKELY TO BE USED BY TRAFFIC.
- 4 LOCATE PROPOSED CONTROL SYSTEM IN AN AREA ACCESSIBLE FOR MAINTENANCE VEHICLES AND OUTSIDE OF CLEAR ZONE AS DEFINED BY THE 2011 AASHTO ROADSIDE DESIGN GUIDE.
- 5 INSTALL RIGID GALVANIZED CONDUIT (RGC) ABOVE GROUND, AND POLYVINYL CHLORIDE (PVC) SCHEDULE 40 CONDUIT UNDERGROUND, EXCEPT AS MODIFIED ON THESE PLANSHEETS OR IN APPLICABLE SECTIONS OF THE ROADWAY STANDARD DRAWINGS FOR THIS PROJECT.
- 6 ALL IN GROUND JUNCTION BOXES SHALL BE 18" HIGH AND ALL BARRIER RAIL AND SIDEWALK JUNCTION BOXES SHALL BE 6" HIGH, UNLESS OTHERWISE NOTED.
- 7 CONTRACTOR SHALL RECORD THE GPS COORDINATES OF EACH JUNCTION BOX WITHIN 3' ACCURACY, IN THE JUNCTION BOX SUMMARY, TABLE "C". PROVIDE A COPY OF THE JUNCTION BOX SUMMARY WITH THESE COORDINATES TO THE LIGHTING ENGINEER DURING PROJECT INSPECTION.
- 8 LIGHT NUMBERING CONVENTION: CONTROL SYSTEM-LIGHT #-CKT # (A-3-2).
- 9 SERVICE POLE SHALL NOT BE INSTALLED PRIOR TO COORDINATION WITH THE LOCAL UTILITY. PROVIDE PROOF OF COORDINATION AND PROOF OF NEED TO THE ENGINEER AFTER CONSULTING WITH THE LOCAL UTILITY. THE SERVICE POLE MAY BE DELETED FROM THE CONTRACT IF NOT REQUIRED. REFER TO ARTICLE 1407-3 OF THE 2018 NCDOT STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES.
- 10 WHERE A CURRENT TRANSFORMER (CT) CABINET IS REQUIRED, THE CT CABINET AND ASSOCIATED HARDWARE ARE INCIDENTAL TO THE PAY ITEM FOR THE LIGHTING CONTROL PANEL.
- 11 LIGHTING CONTRACTOR SHALL COORDINATE WORK WITH CULVERT CONTRACTOR AND MANUFACTURER. ALL CONCRETE INSERTS FOR CONDUIT SYSTEM AND LUMINAIRE BRACKETS MUST BE INSTALLED IN CULVERT DURING FABRICATION. FIELD DRILLING OF CULVERT WALL IS NOT ALLOWED.
- 12

### SCOPE OF WORK

PLACE ROADWAY TUNNEL LIGHTING SYSTEM INTO SERVICE BY PROVIDING AND INSTALLING WALL MOUNT LIGHT ON BRACKET WITH LIGHT EMITTING DIODE LUMINAIRES, SURFACE MOUNTED CIRCUITRY AND A CONTROL SYSTEM.

### DESIGN CRITERIA

MINIMUM 4.5 AVERAGE FOOTCANDLE WITH 3:1 AVERAGE TO MINIMUM UNIFORMITY RATIO ON TRAVEL LANES IN THE DAY TIME.  
 AT DUSK HALF OF THE LIGHTS SHALL BE TURNED OFF.  
 2020 NATIONAL ELECTRICAL CODE  
 2011 AASHTO ROADSIDE DESIGN GUIDE

### ROADWAY STANDARDS

THE FOLLOWING ROADWAY ENGLISH STANDARDS AS APPEAR IN "NCDOT ROADWAY STANDARD DRAWINGS", ROADWAY DESIGN UNIT-N.C. DEPARTMENT OF TRANSPORTATION RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD NO.	TITLE
1407.01	ELECTRIC SERVICE POLE AND LATERAL
1409.01	ELECTRICAL DUCT
1410.01	FEEDER CIRCUITS

ALL WORK SHALL BE IN CONFORMANCE WITH DIVISION 14 OF THE STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, DATED JANUARY 2024.

### LEGEND

- PROPOSED TUNNEL LUMINAIRE WITH SS MOUNTING PLATE. TYPE WM, 240V, 85W MAX. LED, 3,000K COLOR TEMPERATURE, MIN. 70 CRI.
- REFERENCE TO CORRESPONDING NOTE AS NUMBERED.
- PROPOSED FEEDER CIRCUIT. CONTROL SYSTEM (A), CIRCUIT NUMBER (1) PLAN SYMBOL (10). SEE TABLE A, THIS SHEET.
- PROPOSED CONTROL SYSTEM WITH JUNCTION BOX. SEE PLANS FOR BREAKER SIZES.
- PROPOSED ELECTRICAL JUNCTION BOX. SEE TABLE C, SHEET E1A, FOR DETAILS AND TYPE.
- REFERENCE TO CORRESPONDING NOTE AS NUMBERED.
- PROPOSED FEEDER CIRCUIT. CONTROL SYSTEM (A), CIRCUIT NUMBER (1) PLAN SYMBOL (10R). SEE TABLE A, THIS SHEET.
- PROPOSED 30' CLASS 4 SERVICE POLE AND LATERAL 3 #1/0 USE 2" CONDUIT
- PROPOSED ELECTRICAL DUCT SIZE 2", 3" OR 4" TYPE (TL) OR (BD) LOCATION: SEE TABLE B, SHEET E1A.  
2", 3" OR 4" ELEC. DUCT TL & BD

TABLE "A"  
CIRCUITRY CONDUCTOR CONDUIT TYPE & SIZE

PLAN SYMBOL	DESCRIPTION	CONTRACT ITEM
10R	2 #10Ø 1 #10G 1" RGS	2 AWG SIZE 10 CONDUCTOR (BK & RD) 1 AWG SIZE 10 GROUNDING CONDUCTOR 1" RIGID GALVANIZED STEEL CONDUIT
10P	2 #10Ø 1 #10G 1" PVC	2 AWG SIZE 10 CONDUCTOR (BK & RD) 1 AWG SIZE 10 GROUNDING CONDUCTOR 1" PVC CONDUIT

### ABBREVIATIONS

BD	BURIED	PVC	PVC SCHEDULE 40 CONDUIT
LT	LIGHT	RGS	RIGID GALVANIZED STEEL CONDUIT
TL	TRENCHLESS	C	CONDUIT
MH	MOUNTING HEIGHT	CKT	CIRCUIT
Ø	PHASE	N	NEUTRAL
SER LAT	SERVICE LATERAL	G	GROUND
IGJB	IN GROUND JUNCTION BOX	HM	HIGH MAST
LED	LIGHT EMITTING DIODE	LSJB	LIGHT STANDARD JUNCTION BOX
HMJB	HIGH MAST JUNCTION BOX	CSJB	CONTROL SYSTEM JUNCTION BOX

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